

Assessing influences on gratitude experience: Age-related differences in how gratitude is understood and experienced

Blaire Morgan and Liz Gulliford, Jubilee Centre for Character and Virtues, University of Birmingham, UK

As theoretical and empirical work on gratitude continues to thrive, especially in the fields of psychology, philosophy and education, there has been an increased interest in how this construct develops, as this volume attests. Indeed, the development of gratitude is not an uncomplicated issue and that is because gratitude itself is complex and multi-faceted; it comprises emotional, affective and behavioural components as well as requiring cognitive reasoning in order to understand the intentions and motivations behind benefaction and any potential reciprocation (see Gulliford, Morgan, & Kristjánsson, 2013 for a review of gratitude's many contours).

It is largely agreed that gratitude is not inbuilt; instead it develops over time, as certain capacities become available and cognitive abilities mature. The idea that gratitude is learned and honed over time is particularly salient if gratitude is viewed as a moral virtue (Carr, 2013; Tudge, Freitas, & O'Brien, 2015; Wellman, 1999). Virtues, like skills, require a great deal of practice and may not be achieved even in adulthood (Annas, 2011). We have argued elsewhere (Morgan & Gulliford, 2015; Morgan, Gulliford, & Carr, 2015) that gratitude, in an Aristotelian sense, requires the holder to have developed a finely tuned ability to understand when gratitude is called for based on the specific situation at hand and that there are many elements to be considered, such as the intention and effort on behalf of the benefactor, the value of the benefit, the presence of conflicting emotions, and the role of duty (see also Gulliford & Morgan, 2016a). Understanding the motivations behind a benefaction and knowing what the appropriate response is (including whether or how to reciprocate) therefore requires a great deal of cognitive effort and careful reasoning.

In line with the idea that gratitude matures along a developmental trajectory, the first known study of gratitude development (in 1938) evidenced various types of gratitude, with children demonstrating more sophisticated types of gratitude as they get older. Baumgarten-Tramer (1938) asked 7- to 15-year-old children from Switzerland to describe their *greatest wish* and *what they would do for* the person who granted that wish, with the latter question implicitly allowing participants to express their hypothetical gratitude towards a benefactor. The coding of responses to these questions gave rise to distinct types of gratitude, starting with the simplest form of gratitude, “verbal gratitude.” As the name suggests, this refers to expressions of gratitude and was evident across all ages in the study. The next type of gratitude was labelled “concrete gratitude” in which Baumgarten-Tramer categorised responses that described participants wanting to reciprocate with something that they themselves deemed valuable (such as a doll). The most sophisticated type of gratitude, “connective gratitude,” took the benefactor’s own needs and desires into consideration so that suggestions of reciprocation were tailored to that specific individual. In this study it was found that concrete gratitude was more prevalent in younger children, whereas connective gratitude was more evident in older participants. This has been thought to demonstrate a progression from a more egocentric perspective to a more allocentric outlook, which, in turn, describes the development of gratitude as a social emotion; it is this sophisticated connective gratitude that is considered to help build social bonds and establish and maintain relationships (Tudge, Freitas, Mokrova, Wang, & O’Brien, 2015). These findings have subsequently been replicated in Brazil (Freitas, Pieta, & Tudge, 2011) and North America (Tudge, Freitas, Mokrova et al., 2015).

This study by Baumgarten-Tramer demonstrated very early on how gratitude is linked to perspective taking and that the capacity to understand what is valuable to another is not always possible for younger children. More recently, as the interest in gratitude development has been regenerated, researchers have discussed the role of perspective taking in gratitude

with regards to theory of mind and emotion knowledge (see Layous & Lyubomirsky, 2014; Nelson et al., 2013). Theory of mind (ToM) describes the ability to understand other people's mental states and recognise that one's own knowledge and beliefs might not be the same as someone else's. Two different components of ToM have been proposed to exist; the cognitive and the affective (Duval et al., 2011). The cognitive component of ToM refers to cognitions, thoughts, beliefs and intentions—the well-known “false belief task” is a common method of measuring this cognitive component (see Frith & Frith, 2005). This component has clear conceptual links to understanding intentions and motivations behind gift giving in the case of gratitude. The affective component concerns recognising the emotions and feelings; the ability to recognise and understand emotions has been put forward as a prerequisite for experiencing gratitude (Layous & Lyubomirsky, 2014; Nelson et al., 2013).

If the capacity for ToM does underpin gratitude, then the age at which ToM develops should give us an idea about when gratitude might be experienced. Cognitive ToM is typically demonstrated in children between four and five years of age (Wellman et al., 2001); however, understanding complex emotions such as gratitude and jealousy is not thought to arise until around the age of 7 (Harris, Olthof, Terwogt, & Hardman, 1987). Therefore, whilst learning about the intentions behind gratitude might be possible earlier on, grasping the emotional components of gratitude could not be expected until later (Layous & Lyubomirsky, 2014).

To empirically test the hypotheses that mental state and emotional knowledge underpin the capacity for gratitude, Nelson et al. (2013) explored whether ToM and emotion understanding at ages 3 and 4 could predict gratitude understanding at age 5. Using vignettes about gratitude and a series of cognitive and affective tests for mental-state and emotional knowledge, the authors demonstrated that early understandings of both emotions and mental states predicted gratitude understanding later on. They further demonstrated that 3-year-olds' emotion knowledge predicted their mental-state knowledge at age four, which the authors

interpreted as demonstrating a developmental progression from emotion understanding to understanding of mental states (Nelson et al., 2013). Interestingly, in this study the results demonstrated that at age five there was only a limited understanding of the reciprocity involved in gratitude (fewer than 20% of participants evidenced understanding of reciprocation); instead there was a greater emphasis on avoiding negative consequences or demonstrating gratitude as part of politeness or social expectation. This again might indicate that gratitude requires an allocentric outlook that cannot be expected of this age group just yet.

The focus on understanding mental-state knowledge in the above-mentioned papers has largely been centred on reciprocation. That is, knowing what a valuable repayment to the benefactor would be; this is undoubtedly true when following the conception of gratitude first outlined by Baumgarten-Tramer (1938) where reciprocation is key. Whilst it is true that mental-state knowledge is necessary for the repayment of benefits it is also key in understanding whether gratitude should be experienced in the first place. For instance, there may be cases where the giver has benevolent intentions yet the benefit bestowed is deemed as undesirable by the recipient, or the giver expends a great deal of effort in trying to bestow a benefit but it fails to come about. Here, for those who are able to take the benefactor's perspective, the emphasis might be placed on the intention rather than the outcome and gratitude might still be experienced. However, it can only be "the thought that counts" if the thought is properly recognised by the beneficiary. In other cases, benefits might be bestowed in a non-benevolent fashion, for instance when an ulterior motive is at play; here gratitude might not be called for. Therefore, the role of mental-state knowledge is much broader than simply repayment of benefits.

Some educational research on gratitude has begun to include teaching about intention, cost, and value in order to enhance grateful thinking (Froh et al., 2014). Importantly, this curriculum encourages students to consider the benefactor's motivations and effort in

bestowing gifts and makes valuable headway in answering the request for a greater focus on the benefactor: “If we wish to encourage the development of gratitude as a virtue, we need to find ways to persuade them to focus less on the gift itself and more on the giver” (Tudge, Freitas & O’Brien, 2015, p. 296). However, and as we have argued elsewhere (Morgan et al., 2015), young people’s (and adults’) understanding of gratitude could be broadened further by introducing a wider variety of possible variables in gratitude experience. For instance, highlighting both the positive and negative sides of gratitude including the presence of non-benevolent intentions and the occurrence of mixed emotions, such as guilt or indebtedness alongside gratitude. Such factors are not uncommon and will inevitably impact upon gratitude experience. Exploring a broad range of possible scenarios that might, or might not, warrant gratitude should allow participants to consider their own individual understandings of what gratitude entails and encourage them to invoke their “practical wisdom” in deciding whether the situation calls for gratitude (see Morgan & Gulliford, 2015; Morgan et al., 2015).

In line with Tudge, Freitas, and O’Brien (2015), we consider gratitude within an Aristotelian framework and have suggested that it requires the development of practical wisdom, or *phronesis*. That is, virtues are only virtuous insofar as they are directed towards the right person, to the right degree, at the right time and for the right purpose—to make these judgments, the possessor must have developed practical wisdom. We further agree with Tudge, Freitas, and O’Brien (2015) that a focus on the benefactor as well as the benefit is needed in future explorations of gratitude and that gratitude can only be experienced when certain capacities are developed, including theory of mind and an understanding of emotions. The development of gratitude will extend past childhood and adolescence and into adulthood, where conceptualisations of gratitude will be refined and practice of practical wisdom will continue.

In this chapter we describe the methodologies we developed to elucidate factors that influence gratitude experience. We highlight those factors that have been shown to impact

reported gratitude, such as the value of the benefit itself, the cost to the benefactor in providing the benefit, and the benefactor's motives. Other factors that influence reported gratitude include whether an intended benefit materialises, whether a benefactor has to go beyond duty in conferring a benefit, and how the presence of mixed emotions (such as indebtedness) affects reported gratitude. By means of the quantitative and qualitative data we have collected in both the UK and Australia, we illustrate how gratitude experience differs as a function of age by comparing understandings of gratitude and reported levels of gratitude across children, adolescents, and adults. Our work helps to fill the apparent void highlighted in Poelker and Kuebli (2014) that more research on the understanding of gratitude, rather than the benefits of gratitude expression, is needed.

Examining Conceptualisations of Gratitude

Existing research about gratitude takes too much for granted regarding what occasions gratitude and the meaning of the concept across cultures (Gulliford et al., 2013; Gulliford & Morgan, 2016a). In the social science literature there has been too much emphasis on dictionary definitions and a tendency to turn too readily to existing researchers' characterizations of gratitude with little in the way of critique or elaboration (Morgan, Gulliford, & Kristjánsson, 2014). Philosophers, for their part, have offered conceptual analyses of gratitude, delineating the necessary and sufficient conditions for when gratitude is owed (see McConnell, 1993; Roberts, 2004; Simmons, 1979). One such condition is the "supererogation condition" – the position that gratitude *requires* that a benefactor go above and beyond duty in conferring a benefit (Roberts, 2004), a position Card (1988) and Wellman (1999) debate at length. Other considerations include whether gratitude must involve only an intentionally rendered benefit, a condition Fitzgerald (1998) repudiates. We discuss these and other conceptual controversies at length elsewhere (Gulliford et al., 2013). Suffice it to be acknowledged here, that both philosophers and psychologists are guilty of superimposing meanings on gratitude that may not reflect laypeople's views. The consequence is that

measures of gratitude may have assumed too much about what people (both children and adults) *mean* by gratitude and the conditions describing when it is experienced¹ (Morgan et al., 2014; Morgan, Gulliford, & Kristjánsson, in press).

To address this deficiency, we devised a series of innovative age-appropriate methods to assess conditions under which gratitude is experienced. This enabled us to examine differences (including developmental changes) in how gratitude is understood, and factors which impact on when it is deemed appropriate. As a result of this primary endeavour we have also laid plausible foundations for developing a more adequate pedagogy of gratitude, wherein considerations about the appropriateness of gratitude in different situations can be critically discussed to promote a discriminating approach to an ever more popular focus of strengths programmes in schools (Morgan et al., 2015).

We assessed adolescent and adult understanding of gratitude with a series of vignettes which tap considerations about factors which impact on the experience of gratitude. The vignettes (described below) were based on theoretical and empirical work describing moderators of gratitude. To gain insight into the factors that influence younger children's experience of gratitude, we created four stories in which themes explored in the vignettes were embedded within narratives printed in a story workbook. Children aged 8 to 12 answered workbook questions about the characters in the stories and whether they thought they would be grateful and why (or why not) in the situations described in the story.

Vignettes for Adults and Adolescents

¹ Many researchers will provide a definition of gratitude to participants in an attempt to isolate the conception of gratitude that they are interested in. Measurement of gratitude might then address this particular conception (however, there are often many discrepancies between definition and measurement as we point out in Morgan et al., in press). However, we would be a little sceptical of the success of this approach and would argue against superimposing an exact definition of gratitude, especially as this is a complex construct. One particular concern would be around the potential for disagreements between the superimposed definition and participants' own conceptions and experiences of gratitude. It would be unlikely that participants would work to align their own ideas and past experiences of gratitude with the researchers' definition if they do not closely match. Then we have the same issue again with 'expert' and 'lay' understandings not necessarily corresponding which could lead to questions around measurement validity.

The literature review outlined above informed the design of the vignettes we used to explore laypeople's understanding of gratitude and factors that impact on their reported gratitude. The vignettes were designed for use with participants aged 11 years and up. (Gratitude stories that examined parallel conceptual issues were created to probe intuitions about gratitude in children aged 8 to 11 years²; these are discussed later on). In the vignettes, respondents were presented with scenarios that explored the various conceptual issues that surround gratitude, as revealed in the literature review and discussed at length in Gulliford et al. (2013). For instance, whether gratitude is subject to a supererogation condition, whether gratitude increases when greater effort is expended in bestowing a benefit, and whether it is negated by ulterior motives on the part of the person conferring the benefit.

To probe whether the same factors influenced gratitude in different types of situation, we created vignettes that described circumstances in which one would expect high levels of gratitude to be reported (a lake rescue), in addition to vignettes where one would expect more moderate levels of gratitude to be assigned (a nomination for an award). The "high gratitude" lake-rescue vignette probed five conceptual controversies revealed by the literature review: (1) whether gratitude *requires* someone to go above and beyond duty in conferring a benefit; (2) whether gratitude is *amplified* in the case of an actor going above and beyond duty; (3) whether gratitude *requires* risky or costly effort on the part of a benefactor; (4) whether gratitude is *amplified* in the case of a person helping at greater personal risk relative to someone taking a lesser risk; and (5) whether gratitude *requires* that a benefit (in this case a successful rescue) is realised.

The "moderate gratitude" nomination scenario addressed six conceptual controversies, two of which overlapped with the "high gratitude" scenario: (1) whether gratitude *requires* costly effort on the benefactor's part; (2) whether gratitude *requires* that a benefit be fully realised; (3) whether the benefit *has to be* of value to the recipient for

² Please note that when replicated in Australia the age range of participants was 9 to 12 years.

gratitude to be experienced; (4) whether ulterior motives on the part of the benefactor *preclude* gratitude; (5) whether an apparent benefactor's malicious motives *disqualify* gratitude; and (6) finally whether it is possible to feel gratitude in the presence of "negative" feelings, such as indebtedness. It was not possible to manipulate precisely the same conditions in the two kinds of scenario as it would be hard to imagine how a rescuer could be motivated by ulterior or malicious motives or how a rescue could not be construed as a valuable benefit.

To gauge whether (and to what degree) the conceptual issue impacted on reported gratitude, participants were first asked to imagine themselves in a "baseline" scenario. Respondents then indicated on a sliding scale from 0 to 100 the degree of gratitude they would feel in this situation where 0 corresponds to *not at all grateful* and 100 is the *most grateful you could feel*³. Participants were then presented with variations from this baseline in which a different conceptual issue was rehearsed. They completed the same degree questions for each condition to allow for a "gratitude profile" for each participant. Table 1 below illustrates the baseline condition for both the moderate and high gratitude scenarios as well as the manipulations used to examine each of the conceptual issues in question.

[Insert Table 1 around here]

Participants

Adults. Four hundred and twenty six adults who accessed the vignette questionnaire in the UK were included in a cross-cultural analysis, which compared their responses to the lake and nomination scenarios with an Australian adult sample. Of the UK sample, 76% were female, the age range of participants was 18-65 years ($M = 28$ years). In this sample, 36% identified as Christian and 36% were atheist. Of those who had a religion, 40% practised it and 47% did not. The corresponding Australian sample was made up of 234

³ Participants were also asked to agree or disagree as to whether, in that situation, they (1) *are grateful*, and (2) whether they *should be grateful* (1 = strongly disagree to 5 = strongly agree). For reasons of brevity only degree scores are presented here; for a full report, see Gulliford & Morgan, 2016.

participants, of whom 71% were female. They ranged in age from 18 to 85 years ($M = 46$). Almost half (48%) were Christian and 22% were atheist. Of those identified with a religion, 43% practiced it and 57% did not.

Adolescents. Due to the large difference in sample size between Australian adolescents ($N = 2364$) and UK adolescents ($N = 271$), we matched the UK data with a selection of the Australian data. This yielded a UK sample of 198 participants, ranging from 11 to 18 years ($M = 14$). Of these, 56% were female, 8% practiced their identified religion and 88% did not. The matched Australian sample contained 126 participants, ranging from 11 to 17 years ($M = 14$). Of these, 61% were female, 21% practiced their identified religion and 84% did not or responded “don’t know.”

Results and Discussion of Vignettes

The “high gratitude” lake scenario. The mean degree scores across all six of the conditions in the lake scenario have been compiled to create a “gratitude profile” for adults and adolescents in the UK and Australia (see Figures 1 and 2). Not surprisingly, the profiles demonstrate that the degree of gratitude assigned at baseline was already high for both adults and adolescents (over 90 on the scale of 0-100) and decreased somewhat in the duty (lifeguard) condition. What is most evident when comparing Figures 1 and 2 is that the gratitude profiles are much more similar for UK and Australian adults than adolescents. The dashed line that represents UK adolescents in Figure 2 illustrates sharper decreases in reported gratitude following the duty scenario where a lifeguard steps in, the bigger risk condition where participants review whether their gratitude is altered because of a risky rescue, as well in relation to a non-realised benefit.

[Insert Figures 1 and 2 around here, ideally side by side if possible]

When exploring this data set, we were interested in differential responding across the conditions, relative to the baseline degree of gratitude reported. That is, we wanted to compare whether the level of gratitude reported (from 0 to 100) significantly increased or

decreased from baseline for each condition. To this end, we conducted a mixed ANOVA with condition as the within-subjects variable and age group (adult/adolescent), country, gender and practice religion as between-subjects variables. Due to the complexity of this analysis we excluded participants who answered “don’t know” or “rather not say” to whether they practice their religion; this created a categorical variable of practice religion “Yes” or “No”⁴.

The results of this mixed ANOVA revealed that the factors implemented in these scenarios successfully manipulated the degree of gratitude reported; all conditions gave way to significantly different levels of gratitude from baseline ($F [5, 2175] = 25.43, p < .001, \eta^2 = .040$). The between-subjects analysis revealed a significant main effect of country ($F [1, 607] = 3.85, p = .05, \eta^2 = .006$) and age group ($F [1, 607] = 5.21, p < .05, \eta^2 = .009$), but no significant main effect of gender ($p = .54$) or practice religion ($p = .36$).

When comparing differential responding across conditions (relative to the baseline) we see a number of cross-cultural and age differences⁵. In terms of cross-cultural findings, we observe significantly higher levels of gratitude reported in the Australian sample in response to two particular conditions. The first is duty where a lifeguard is responsible for the rescue (UK $M = 85.6, SE = 1.49$; AUS $M = 90.6, SE = 2.34$ ($p < .05, \eta^2 = .009$)), and the second is the non-realised condition where a passer-by tries but fails to effect a rescue (UK $M = 76.1; SE = 2.34$; AUS $M = 85.8, SE = 2.35$ ($p < .01, \eta^2 = .013$)). With regards to age differences, we see one particularly salient difference that relates to the “bigger risk” condition ($F [1, 607] = 7.41, p < .01, \eta^2 = 0.12$). Here, participants are asked to restate their degree of gratitude experienced after considering the fact that this passer-by was subject to increased risk in comparison to the lifeguard who is trained for this situation. Interestingly,

⁴ Across the entire data set this exclusion removed 106 females versus 56 males; 39 UK participants versus 124 Australian participants; 38 adults versus 124 adolescents. When excluding all missing data, the sample for this analysis was comprised of 322 UK participants and 285 Australian participants; of these, 448 were adults and 159 adolescents; 411 female and 196 male; and 484 did not practice their religion whilst 123 did.

⁵ Please note there was no three-way interaction between condition, age group and country in this analysis.

adults reported a greater degree of gratitude here than adolescents (Adult $M = 89.1$, $SE = 1.11$; Adolescent $M = 79.4$, $SE = 2.66$). Perhaps, for the adolescents the important factor was the rescue itself rather than the cost involved; that is, there may be more emphasis placed on the benefit itself in this particular age group.

Alternatively, perhaps this result is due to adults being better able to see the situation from the benefactor's perspective and therefore appreciate the risk involved. Adolescence has long been associated with risk-taking behaviour (see, for example, Steinberg, 2010) so the findings we see here could be reflective of a more relaxed view on taking risks. A final consideration here is that adults may have a better grasp on the concept of duty as they are likely to have many more duties and obligations than adolescents. Therefore, older participants may have a more refined view on the relationship between gratitude and duty which *could* lend itself to lower estimations of gratitude for benefactors that are simply fulfilling the requirements of their job (as is true of the lifeguard in the duty condition).

The “moderate gratitude” nomination scenario. Once again, the gratitude profiles for both adults and adolescents in the UK and Australia can be viewed in Figures 3 and 4 below. These profiles illustrate that responses across UK and Australian adults and adolescents respond in a much more consistent manner in this nomination scenario. Figure 3 demonstrates how adults across the two countries are responding in almost exactly the same way with parallel lines across all seven conditions.

A second mixed ANOVA was run with nomination conditions at the within-subjects variable and country, age group, gender and practice religion (Yes/No) as the between-subjects variables⁶. Once again, the manipulations made to the scenarios were successful in altering the degree of gratitude reported by participants with significantly different levels of gratitude reported in relation to baseline ($F [6, 2661] = 255.74$, $p < .001$, $\eta^2 = .295$). For this

⁶ Due to missing data and restriction of Practice Yes/No responses, the sample for this analysis was comprised of 327 UK participants and 285 Australian participants; of these, 445 were adults and 167 adolescents; 425 female and 187 male; and 470 did not practice their religion whilst 142 did.

scenario we only note a significant main effect of country ($F [1, 612] = 4.87, p < .05, \eta^2 = .008$) and no longer observe a main effect of age ($p = .82$). The main effect of country is due to higher levels of gratitude reported across the board by Australian participants in comparison to UK participants, as can be seen in the Figures below. The effects of gender and practice religion were not significant ($p = .43$ and $.08$ respectively).

[Figures 3 and 4 somewhere here, ideally side by side if possible for comparison]

When looking at differential responding across conditions relative to baseline we do see multiple age-related differences. Firstly, the comparative decrease from the baseline to the ulterior motive condition is significantly greater for the adult cohort than the adolescents (Adult mean difference = 25.38, Adolescents = 18.26; $F [1, 612] = 4.68, p < .05, \eta^2 = .008$). The presence of a non-benevolent intention, in the specific form of an ulterior motive appears to have a greater impact on adults' gratitude than younger adolescents. One possible explanation for this difference may be that the Australian adolescents had perhaps not recognised the presence of ulterior motives, or if they did they did not see it as undermining gratitude. One possibility is that the adolescents saw the ulterior motive (a colleague nominating you for an award because she would like help with her workload) more as a *quid pro quo* than anything underhand. Another possibility is that this group focused on the benefit (the nomination) rather than the intention, which in the case of the other three groups, undermined reported degree of gratitude.

When exploring the non-realised condition, we actually observe slight increases in reported gratitude relative to the baseline. This is an interesting contrast to the lake scenario where the mean degree of gratitude reported decreased in this condition (with the exception of Australian adolescents), which suggests the importance of considering contextual factors when exploring individuals' gratitude. For the nomination scenario, we see significantly stronger increases in gratitude (relative to the baseline) in adolescents in comparison to adults (Adolescents mean increase = 0.64; Adults mean increase = 5.29). In this particular condition

it appears as though both adults and adolescents appreciate the intention behind the benefaction regardless of the fact that it did not pay off.

However, it is not always the thought that counts as our final age-related difference is in regards to lower reported gratitude levels in the non-valuable condition. Here, a benefactor bestows an undesirable benefit and reported gratitude decreases for both the adult and adolescent cohort. Interestingly, this decrease is significantly more pronounced for adults than adolescents (Adults mean difference = 28.20, Adolescents = 19.33; $F [1, 612] = 8.20, p < .01, \eta^2 = .013$). In this particular situation it appears as though adolescents were better able to appreciate the intention behind the benefaction and adults were perhaps more focused on the value of the benefit. It could also be the case that adults saw the non-valuable benefit of being nominated for an award they did not want as conferring no special “glory” on them, and may have been concerned by past experiences about subsequently being co-opted into doing things in the workplace—an experience with which adolescents would not have been familiar. For this particular condition we actually note a three-way interaction between condition, age, and country ($F [1, 612] = 3.91, p < .05, \eta^2 = .006$). This interaction is due to significantly larger differences between adults’ and adolescents’ reported gratitude in the UK in comparison to Australia (UK adult–adolescent mean difference = 13.55; Australian adult–adolescent mean difference = 4.13).

The comparative results from adults and adolescents in the UK and Australia highlight some interesting findings. The lake scenario revealed some cross-cultural differences in the factors that influence gratitude, with higher levels of gratitude reported in Australia in response to non-realised benefits. In the nomination scenario there appeared to be an even greater appreciation of non-realised benefits where gratitude increased past the baseline level. Adolescents in particular appear to recognise the intention behind the benefaction in this scenario and report higher levels of gratitude than do adults in response to both non-realised and non-valuable benefits. This thereby suggests that this cohort is

engaging in perspective taking and is able to recognise and acknowledge the motivations and thoughts of the benefactor. Considering the age of these participants (the youngest being 11 years) we can be confident that the capacity for mental state and emotional knowledge is well established by this point. We were interested, therefore, to see whether we found a similar appreciation for intentions in our younger cohort of 8- to 12-year-olds. Similarly, we were curious as to whether greater emphasis on the benefit may be present in this cohort and whether the occurrence of mixed emotions could be accurately recognised. As mentioned in the introduction, gratitude is considered a complex emotion but it can also encompass a more shadow side where individuals have to grapple with feelings of guilt and indebtedness alongside gratitude. Therefore, the experience of gratitude can often be a convoluted one which might not always be easy to navigate or understand, especially for younger children (Gulliford & Morgan, 2016b).

Gratitude Stories for Children

To examine factors influencing younger children's experience of gratitude, four story workbooks were specifically created to explore the themes addressed in the vignettes. It was judged easier for children this age to relate to gratitude they thought characters in the stories would feel, rather than report on their own projected internal states (as with the vignettes). While we could not reproduce *exactly* the same themes within the stories as the vignettes, we were able to find ways of embedding most conceptual controversies within the narratives in age-appropriate ways. Children completed the story workbooks, indicating whether they thought various characters would be grateful and why (or why not) in the circumstances described.

Two stories, *St Oscar's Oscars* and *The Class Councillor* were based on nominations (for an award or a position on the school council) and thus provided opportunities for examining conceptual controversies we had previously explored in the nomination vignette.

To examine conceptual issues addressed in the lake rescue, we constructed *The Blue Oasis* story which described events at a supervised pool party.

Participants

In the UK, 270 primary school children (8 to 11 years) completed one of the four story workbooks. Of the total sample, 51% were female, 44% described themselves as Christian and 21% as atheist. Of those who identified with a religion, 39% practiced it and 49% did not. The six primary schools that took part were recruited from Derbyshire (a Church of England primary school), the West Midlands (a Roman Catholic primary and a non-denominational primary school) and three primary schools in Scotland (one RC and two non-denominational).

In Australia, 531 children took part, completing one story workbook each. Ages ranged from 9 to 12 years, making the sample slightly older than in the UK. Forty nine percent were male and 42% self-identified as Christian. Twenty three percent indicated that they did not profess any religion. Of those who did, 22% indicated that they practiced it. Participants were recruited through 3 independent primary schools (with one school split across two campuses) in Melbourne, Victoria.

Results and Discussion of Gratitude Stories

Our data consisted of completed story workbooks. Respondents answered questions (some open-ended and others closed-form) about how they thought characters in the stories would feel. Some questions were in a Likert-style format, others were Yes/No items, and some were qualitative questions, which were subsequently coded thematically. Frequencies were calculated for Likert and Yes/No items.

Risk/Cost. To examine the effect of *risk/cost* to the benefactor on children's perceptions of gratitude, the *Blue Oasis* story described how a man attempted a rescue that was later successfully accomplished by a lifeguard. Respondents were asked to indicate to whom they would be *most* grateful—the man or the lifeguard? Sixty-five percent of UK

children thought they would be more grateful to the man who tried to save them than the lifeguard (22%). In the Australian sample, 44% were most grateful to the man and 33% were most grateful to the lifeguard.⁷ Though a higher proportion of the UK children were more grateful to the man, the same pattern was observed in both samples; namely, children seemed to judge that *more* gratitude was due to someone who took a bigger risk in trying to bring about a rescue. Qualitative responses supported the role estimates of risk played in their decision; 28% percent of UK children and 25% of Australians mentioned ‘risk’ in the explanation they gave for their choice.⁸

Children’s responses to the issue of risk appears to be more in line with adults than adolescents. As will be recalled in the vignette analysis, adolescents’ reported gratitude was lower than that of adults, which led us to speculate that adolescents’ view on risk taking may be more relaxed than adults in line with a decreased aversion to risk that tends to arise in adolescence. These findings from the gratitude story also suggest that children are able to take account of perceived costs to the benefactor in their understanding of gratitude; in this case cost acted as an amplifier of gratitude experience.

Ulterior motives. We were able to probe ulterior motives in *The St Oscar’s Oscars* where a boy (Robbie) is told he is being nominated for an award for his skill at football. However, it transpires that this nomination is not all it seems, for immediately after he hears the news, his nominator (who had been told to keep the nomination secret) announces that Robbie is her nominee and then asks to copy his answers in a spelling test. In the UK, 29% of the sample said they thought Robbie would be grateful for the nomination, while 52% of the Australian participants believed Robbie would be grateful. This is quite a striking difference between the two groups and leads one to question whether the ulterior motive had been understood.

⁷ In both samples 14% said both, while 9% of the Australian sample said they did not know.

⁸ 14% of Australians and 23% UK sample referenced the supererogation condition (it was not the man’s job to help).

To see if children recognised that an ulterior motive was involved in the nomination, we asked participants to give reasons for their answer. Seventy percent of UK respondents gave responses which suggested that they understood the nomination had been motivated by an ulterior motive. However, in the Australian sample the modal qualitative response was that Robbie had been nominated because he scored a deciding goal in a game of football with a rival school (50%). Only four of the 67 children who gave this reason *also* realised that Robbie had been nominated for the ulterior motive. In other words, it would seem that these children took the reason given by the nominator herself at face value. While 46% of the Australian sample did recognise the ulterior motive (in comparison with 70% of UK children), qualitative data strongly suggest that the reason why more Australian children thought that Robbie would be grateful for the nomination was that they did not recognise that his nominator had ulterior motives for her nomination.

These results suggest that the intention of the benefactor was not fully recognised by either the UK or the Australian cohort. The particular reason as to why this ulterior motive was ignored or missed is not clear. It is possible that the children were unable to fully understand this situation from Robbie's perspective and could not quite put themselves in his shoes. The ability to empathise with Robbie may have been further restricted if the children had not experienced a similar situation in real life. Alternatively, the focus here may be on the benefit received rather than the intention behind the benefaction; if the nomination is viewed as valuable this may overshadow any other factors at play. If this is the case then it would suggest that it is the interplay between factors that is key in knowing whether gratitude will be experienced or not. A final possibility we raise here is that, without prompting, the participants were not motivated to uncover the subtleties involved; when considering gratitude, children may need appropriate encouragement from parents or educators to engage in perspective taking and uncover the various elements that underpin the construct. This is clearly the reasoning behind Froh et al.'s (2014) curriculum on grateful thinking and we

further believe that the gratitude stories and vignettes discussed here can act as a useful teaching resource for developing an understanding of gratitude.

In the sample tested here the Australian children appeared to be less attuned to the shadow side of gratitude. This reinforces our belief, that we have outlined at length elsewhere (Morgan et al., 2015), that there is a need to educate young people about the possible negative side of gratitude alongside its many benefits. In essence we have argued that a failure to acknowledge and teach about negative influences such as non-benevolent intentions and concurrent negative emotions (such as guilt and indebtedness) could leave children vulnerable or have adverse consequences. For example, if unable to feel only positive affect in response to benefaction children may feel as though there is something wrong with them unless the potential for mixed emotions is discussed as a typical reaction. Similarly, without an understanding of non-benevolent intentions, other individuals may take advantage of such naivety (see also, Carr & Harrison, Chapter 13, this volume).

Mixed emotions. We explored mixed emotions in *The St Oscar's Oscars*. In the story, a boy (Ethan) is planning to nominate another boy (Dominic) for an "Oscar" when his classmate (Jordan) tells him that he is voting for him (Ethan). Children were asked whether they thought Ethan would be grateful for the nomination and give a reason for their choice. They were also asked how they thought Ethan was feeling and to indicate whom they thought Ethan should finally nominate—Jordan or Dominic (his original choice). Sixty percent of the UK sample thought that Ethan *would* be grateful to Jordan for the nomination, while 37% said he would *not* be grateful to his classmate. In Australia, almost three quarters of the sample (73%) thought Ethan would be grateful to have been nominated and 27% believed he would not be grateful.

Responses to the qualitative questions showed that both UK and Australian children appreciated that Ethan felt mixed emotions as a result of Jordan's nomination (confusion, awkwardness, and worry were the main reactions offered). Sixty nine percent of the

Australian children and 63% of the UK sample felt Ethan should go with his first choice of nominee (Dominic). Seventeen percent of the Australian sample and 21% of UK children proposed a substitution; Jordan should get the vote for having nominated Ethan. The data suggest that UK children may be more negatively impacted by mixed emotions than their Australian counterparts. Fewer UK children thought Ethan would be grateful for the nomination (60% in comparison with 73%) and fewer thought he should stick with Dominic as his choice of nominee. Unlike the case of ulterior motives, it seems most children were aware that Ethan would have felt conflicting emotions. However, it seems the Australian children believed Ethan's gratitude would be less affected by the negative emotions aroused.

Of relevance here is Selman's (1980) Social Perspective Taking theory. In particular, Level 2 of Selman's theory describes the ability to understand conflicting emotions and is thought to develop between the ages of 7 and 12. In relation to gratitude, this might include an understanding of gratefulness alongside guilt, indebtedness/obligation or embarrassment as described above. Or, as previously suggested by Poelker and Kuebli (2014), it could also play a role in dealing with undesirable benefits where a mixed sense of appreciation and disappointment can often be felt. This is likely to also extend to situations where there is a non-realised benefit as well. According to Poelker and Kuebli (2014), "a participant's ability to recognize the inconsistency in their emotions when they think about receiving an undesirable gift may suggest how they can still recognize giver effort and provide high gratitude ratings... He is beginning to understand the implications of these contradictory emotions and understanding it is the thought that counts" (p. 444).

These results also indicate an interplay between developmental and cultural differences; across both the gratitude stories and the vignettes the Australian participants appear to report higher levels of gratitude in situations where a shadow side of gratitude is present. The ability to understand how to navigate situations where negative influences are present, including mixed emotions but also non-benevolent intentions as described above,

will inevitably improve with age. However, some cultures may be more forgiving of these negative influences than others—in line with social and cultural norms, some individuals will deem gratitude as appropriate where other cultures will not. This is evident even in our comparison of two Westernized and Anglophone countries. When examining understandings of gratitude careful attention should be paid to the context in which the research is being conducted.

Developmental and Educational Implications

Gratitude has become a key strand of “positive education” and “character education,” undoubtedly because it has been linked to a huge array of positive psychological, social and interpersonal benefits (see Wood et al., 2010). As noted by Poelker and Kuebli (2014), much of the interest in gratitude in young people has been centred on cultivating benefits, such as increased subjective wellbeing and school attainment (Froh, Miller, & Snyder, 2007; Froh, Sefick, & Emmons, 2008). There has been much less research into how gratitude is understood.

The research we have presented here has attempted to fill that void and illustrate the various factors that might influence gratitude in children and adolescents, as well as adults. Through a series of vignettes and gratitude stories we have explored how a benefactor’s intentions and effort might impact gratitude experience as well as the value of benefits and more complicated conceptual issues such as duty and mixed emotions.

These methods have uncovered a number of age-related differences in reported levels of gratitude, with adolescents demonstrating greater appreciation for non-valuable and non-realised benefits in comparison to adults. This suggests that young people are able to appreciate the intentions behind a benefaction even when the benefit is either undesirable or fails to materialise; in other words, there are situations in which it is the thought that counts.

However, the intentions behind benefaction were not always fully recognised by the young people in our samples. Children, in particular, struggled to understand when an ulterior

motive was present. Similarly, adolescents' responses to ulterior motives were adjusted to a smaller degree than in the adult sample.

Whilst previous educational programmes have encouraged reflection on intentions (alongside cost to the benefactor and value of the benefit), there has been comparably little attention paid to non-benevolent intentions and more negative consequences of gratitude, such as the negative emotions it might invoke along with the positive (see also Gulliford & Morgan, 2016b, and Carr & Harrison, Chapter 13, this volume). In other words, the focus on gratitude within the educational context has yet to be sufficiently critical. Instead, what is required is a balance of the positive and negative and a more nuanced exploration of the concept (see Morgan, Gulliford, & Carr, 2015).

Furthermore, to develop the *moral virtue* of gratitude, individuals must understand when gratitude is appropriate (Morgan & Gulliford, 2015; Tudge, Freitas, & O'Brien, 2015). In order to build this understanding, the various conceptual issues we have introduced here must be explored so that reasoning about gratitude can be refined; it is only by navigating both the positive and negative aspects of gratitude that the construct will be fully understood.

Therefore, in terms of developmental and educational implications, our results point to a need for parents and educators to encourage explorations of the concept itself. By questioning *why* it is that gratitude should be experienced rather than just encouraging the verbalisation of "thank you" children will be able to understand when gratitude is called for; that is, "consistent support and encouragement from adults enable children to develop the skills necessary to express *and* experience gratitude" (Froh et al., 2007, p. 4). Teaching resources that encourage reflection on the concept of gratitude (including those introduced here) may help to support this process.

Vast amounts of research have also demonstrated how parents play a vital role in the internalisation of values (Hardy, Padilla-Walker, & Carlo, 2008; Killen & Smetana, 2015). Gratitude is one value that is likely to be given much attention from an early age, at least in

Westernized cultures. Due to social and cultural expectations, parents begin socialising children to express gratitude when they first begin to speak. The process of internalisation is heavily informed by Deci and Ryan's (1991) four different types of regulation, where their theory describes the process by which children advance from external regulation and avoidance of negative consequences to integration of values where their expression becomes intrinsically motivated. More recent research has demonstrated that certain parenting styles and behaviours can promote internalisation of moral values. For instance, Hardy et al. (2008) demonstrate how adolescents' ratings of parental involvement were positively correlated with identified and integrated regulation of honesty, kindness and fairness (i.e., more internalised values).

Whilst this research focused on honesty, kindness, and fairness, this is likely to extend to other moral values possibly including gratitude. An important avenue for future research will be to examine the socialisation and internalisation of gratitude (with regards to cultural norms) and to further explore the role of parents and teachers in the cultivation of gratitude. We see elsewhere in this volume (Sections 3 and 4) that this is at the forefront of gratitude research, and we hope that these chapters will encourage sustained focus in the future. Specifically, we trust that the research and argument presented here will encourage researchers, parents and educators to consider focusing on understandings of gratitude rather than simply cultivating its secondary effects regardless of how beneficial these might be.

Acknowledgements

This publication was made possible through the support of grants from the John Templeton Foundation and the Society for Educational Studies. The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the funders.

In the spirit of gratitude, we would like to offer our warm thanks to Jonathan Tudge and Lia Freitas for inviting us to contribute to this important volume and for the feedback they have offered on our chapter.

We would also like to extend our warmest gratitude to Professor Lea Waters from the Graduate School of Education at the University of Melbourne for her invaluable help in the recruitment of Australian schools, and to Leonie Abbott, of Catching Smiles, for her efforts in data collection in Australia.

References

- Annas, J. (2011). *Intelligent virtue*. Oxford University Press.
- Baumgarten-Tramer, F. (1938). "Gratefulness" in children and young people. *The Pedagogical Seminary and Journal of Genetic Psychology*, 53(1), 53–66.
- Card, C. (1988). Gratitude and Obligation. *American Philosophical Quarterly*, 25 (2), 115–127.
- Carr, D. (2013). Varieties of gratitude. *Journal of Value Inquiry*, 47, 17–48.
- Carr, D., Morgan, B. & Gulliford, L. (2015). Learning and teaching virtuous gratitude. *Oxford Review of Education*, 41 (6), 766–781.
- Deci, E. L., & Ryan, R. M. (1991). A motivational approach to self: integration in personality. In R. A. Dienstbier (Ed.) *Nebraska symposium on motivation, 1990: Perspectives on motivation* (pp. 237–288). Lincoln, NE: University of Nebraska Press.
- Duval, C., Piolino, P., Bejanin, A., Eustache, F., & Desgranges, B. (2011). Age effects on different components of theory of mind. *Consciousness and Cognition*, 20(3), 627–642.
- Fitzgerald, P. (1998). Gratitude and justice. *Ethics*, 109(3), 119–153.
- Freitas, L. B. L., Pieta, M. A. M., & Tudge, J. R. H. (2011). Beyond politeness: The expression of gratitude in children and adolescents. *Psicologia: Reflexão e Crítica*, 24(4), 757–764.
- Frith, C., & Frith, U. (2005). Theory of mind. *Current Biology*, 15(17), R644–R645.
- Froh, J. J., Bono, G., Fan, J., Emmons, R. A., Henderson, K., Harris, C., Leggio, H. & Wood, A. M. (2014). Nice thinking! An educational intervention that teaches children to think gratefully. *School Psychology Review*, 43(2), 132 – 152.
- Froh, J. J., Fan, J., Emmons, R.A., Bono, G., Huebner, E. S., & Watkins, P. (2011) Measuring gratitude in youth: Assessing the psychometric properties of adult

- gratitude scales in children and adolescents. *Psychological Assessment*, 23 (2), 311–324.
- Froh, J. J., Miller, D. N., & Snyder, S. F. (2007). Gratitude in children and adolescents: Development, assessment, and school-based intervention. *School Psychology Forum*, 2, 1–13.
- Froh, J. J., Sefick, W. J., & Emmons, R. A. (2008). Counting blessings in early adolescents: An experimental study of gratitude and subjective well-being. *Journal of School Psychology*, 46(2), 213–233.
- Froh, J. J., Yurkewicz, C., & Kashdan, T. B. (2009). Gratitude and subjective well-being in early adolescence: Examining gender differences. *Journal of Adolescence*, 32(3), 633–650.
- Gulliford, L., Morgan, B., & Kristjánsson, K. (2013). Recent work on the concept of gratitude in philosophy and psychology. *The Journal of Value Inquiry*, 47(3), 285–317.
- Gulliford, L. & Morgan, B. (2016a). An empirical exploration of the normative dimensions of gratitude. In Carr, D. (Ed.) *Perspectives on gratitude: An interdisciplinary approach* (pp. 119-214). London: Routledge.
- Gulliford, L. & Morgan, B. (2016b). The meaning and valence of gratitude in positive psychology. In Brown, N., Lomas, T. & Eiroa-Orosa, F. (Eds.), *Critical positive psychology* (pp. xxx–xxx). London: Taylor & Francis.
- Hardy, S. A., Padilla-Walker, L. M., & Carlo, G. (2008). Parenting dimensions and adolescents' internalisation of moral values. *Journal of Moral Education*, 37(2), 205–223.
- Harris, P. L., Olthof, T., Terwogt, M. M., & Hardman, C. E. (1987). Children's knowledge of the situations that provoke emotion. *International Journal of Behavioral Development*, 10(3), 319–343.

- Killen, M., & Smetana, J.G. (2015). Origins and development of morality. In M. E. Lamb & R. M. Lerner (Eds.) (Eds.), *Handbook of child psychology and developmental science* (pp. 714–749). NY: John Wiley & Sons, Inc.
- Layous, K., & Lyubomirsky, S. (2014). Benefits, mechanisms, and new directions for teaching gratitude to children. *School Psychology Review*, 43(2), 153–159.
- McConnell, T. (1993). *Gratitude*. Philadelphia, PA: Temple University Press.
- McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, 82(1), 112–127.
- Morgan, B., & Gulliford, L. (2015, January). *Measuring virtuous gratitude*. Paper presented at Conference “Varieties of Virtue Ethics, Oxford, UK. Available online: https://www.researchgate.net/publication/276937461_Measuring_'Virtuous'_Gratitude
- Morgan, B., Gulliford, L., & Carr, D. (2015). Educating gratitude: Some conceptual and moral misgivings. *Journal of Moral Education*, 44(1), 97–111.
- Morgan, B., Gulliford, L., & Kristjánsson, K. (2014). Gratitude in the UK: A new prototype analysis and a cross-cultural comparison. *The Journal of Positive Psychology*, 9(4), 281–294.
- Morgan, B., Gulliford, L., & Kristjánsson, K. (in press). A new approach to measuring moral virtues: the Multi-Component Gratitude Measure. *Journal of Personality and Individual Differences*
- Nelson, J. A., Freitas, L. B. L., O’Brien, M., Calkins, S. D., Leerkes, E. M., & Marcovitch, S. (2013). Preschool-aged children's understanding of gratitude: Relations with emotion and mental state knowledge. *British Journal of Developmental Psychology*, 31(1), 42–56.

- Poelker, K. E., & Kuebli, J. E. (2014). Does the thought count? Gratitude understanding in elementary school students. *The Journal of genetic psychology, 175*(5), 431–448.
- Roberts, R. C. (2004). The blessings of gratitude: A conceptual analysis, in Emmons, R. A. & McCullough, M. E. (Eds.), *The Psychology of Gratitude* (pp. 58–78). Oxford, UK: Oxford University Press.
- Seligman, M. E., Ernst, R. M., Gillham, J., Reivich, K., & Linkins, M. (2009). Positive education: Positive psychology and classroom interventions. *Oxford Review of Education, 35*(3), 293–311.
- Simmons, A. J. (1979) *Moral principles and political obligations*. Princeton, NJ: Princeton University Press.
- Tudge, J. R. H., Freitas, L. B. D. L., Mokrova, I. L., Wang, Y. C., & O'Brien, M. (2015). The wishes and expression of gratitude of youth. *Paidéia (Ribeirão Preto), 25*(62), 281–288.
- Tudge, J. R., Freitas, L. B., & O'Brien, L. T. (2015). The virtue of gratitude: A developmental and cultural approach. *Human Development, 58*(4-5), 281–300.
- Waters, L. (2011). A review of school-based positive psychology interventions. *The Australian Educational and Developmental Psychologist, 28*(02), 75–90.
- Wellman, C. H. (1999). Gratitude as a virtue. *Pacific Philosophical Quarterly, 80* (3), 284–300.
- Wellman, H. M., Cross, D., & Watson, J. (2001). Meta-analysis of theory-of-mind development: The truth about false belief. *Child development, 72*(3), 655–684.

Table 1. Conditions across high and moderate gratitude scenarios used to examine the factors that influence gratitude experience.

High Gratitude: Lake Scenario	Moderate Gratitude: Nomination Scenario
Baseline: <i>'You get into difficulties swimming in a lake. You cannot make it back to the shore and you are in real danger. A person on the shore sees you struggling and dives in and rescues you.'</i>	Baseline: <i>'A colleague nominates you for an award at work. If you win, you will receive recognition of your hard work and a voucher.'</i>
Duty: [Baseline followed by] <i>'A lifeguard is on duty and jumps in and saves you.'</i>	Ulterior Motive: [Baseline followed by] <i>'The colleague has nominated you because she wants you to repay the favour by helping her with her own workload'.</i>
Cost/Risk: [Baseline followed by] i) <i>'A person on the shore sees you struggling and dives and rescues you. You know that she is risking her own life by doing so as she is not a very good swimmer.'</i>	Cost/ Effort: <i>'A colleague nominates you for an award at work. If you win, you will receive recognition of your hard work and a voucher. The colleague had to spend a long time filling in the nomination form outside of work.'</i>
Bigger risk: [Baseline followed by] ii) <i>'You are more grateful to this person than the lifeguard as it was not her job to help you.'</i> [Agree/Disagree likert question followed by repeat of degree 0-100 question]	Malicious Intention: [Baseline followed by] <i>'You do not get on with this colleague and you know that she only nominated you because she knew it would embarrass you.'</i>
No Duty (Supererogation): [Baseline followed by] iii) <i>'You are more grateful to this person than the lifeguard as there is a bigger risk involved.'</i> [Agree/Disagree likert question followed by repeat of degree 0-100 question]	Non-realised: [Baseline Sentences followed by] <i>'In the end you do not win the award.'</i>
Non-realised: [Baseline Sentences followed by] <i>'However, she struggles herself and has to give up. In the end a lifeguard rescues both of you.'</i> [Participants asked about their gratitude towards the person who <i>tried</i> to save them].	Mixed Emotion: [Baseline followed by] <i>'You feel thankful that your colleague nominated you but you also feel uncomfortable now that you are indebted to her.'</i>
	Non-Valuable: [Baseline followed by] <i>'You do not want to win this award and would rather that you had not been nominated.'</i>

Figure 1: Profile of mean gratitude scores across the six conditions of the (high gratitude) lake scenario, as shown for both UK and Australian adults

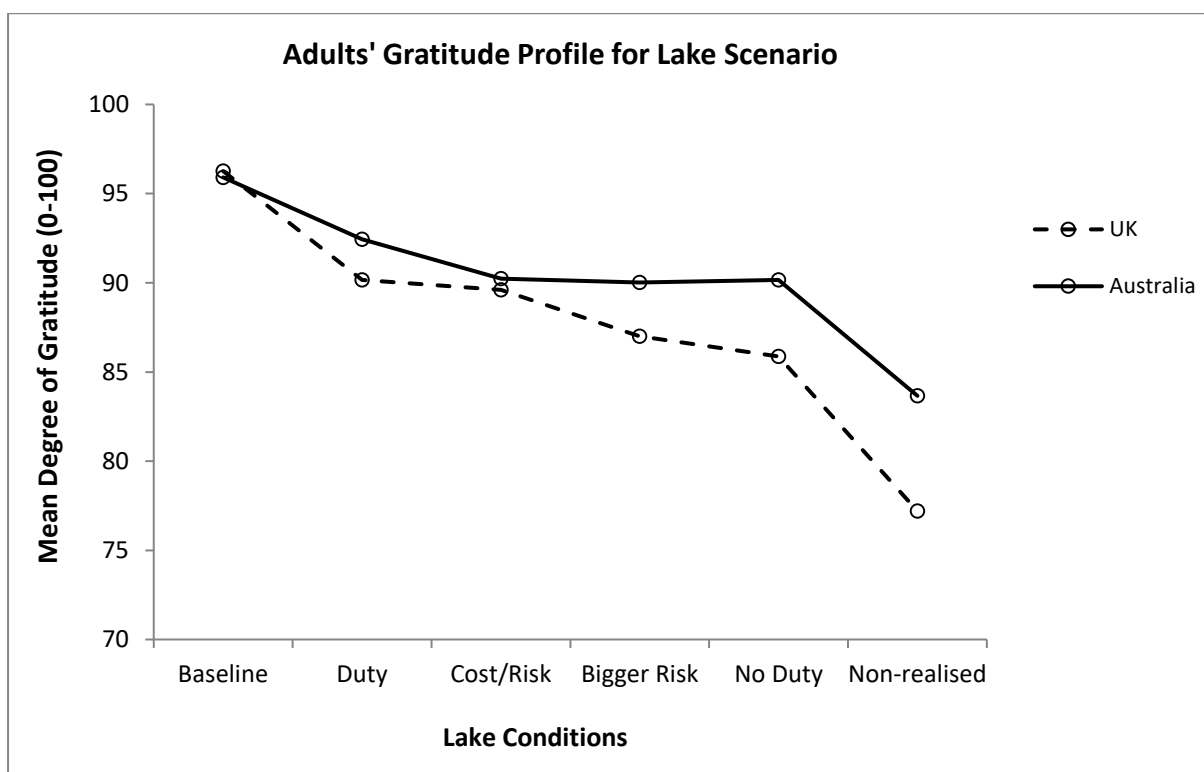


Figure 2: Profile of mean gratitude scores across the seven conditions of the (high gratitude) lake scenario, as shown for both UK and Australian adolescents

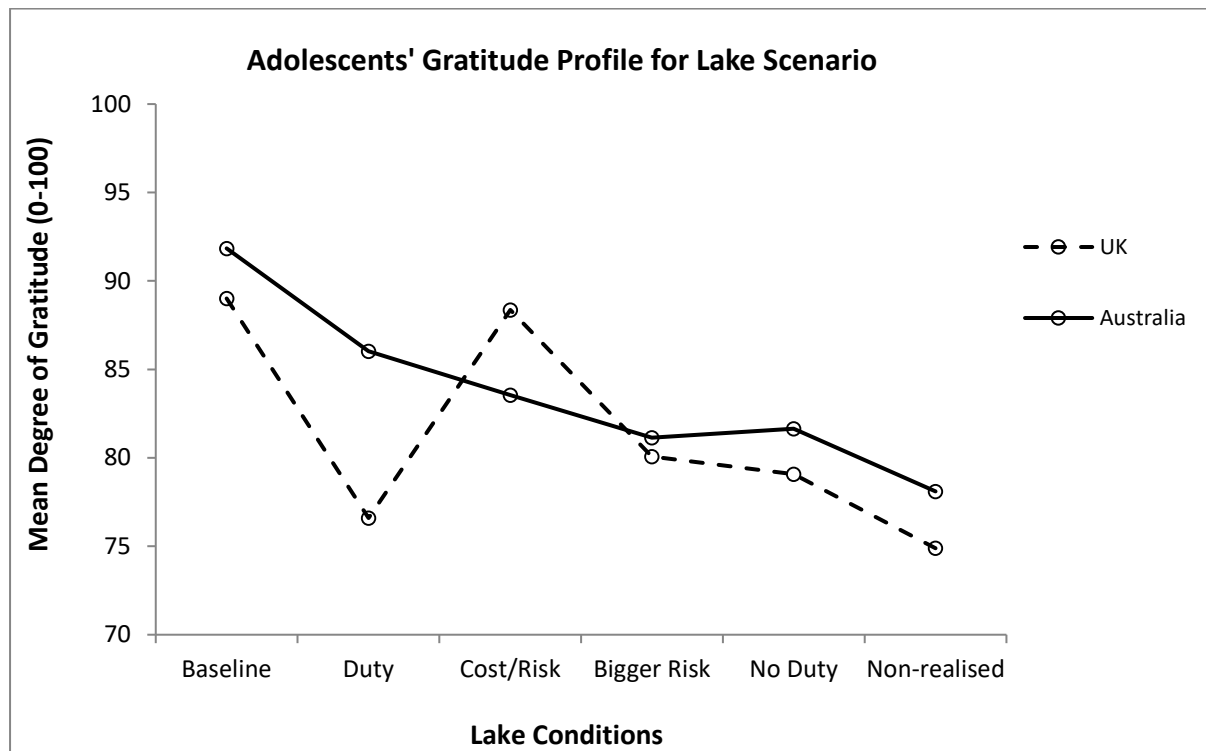


Figure 3: Profile of mean gratitude scores across the seven conditions of the (moderate gratitude) nomination scenario, as shown for both UK and Australian adults

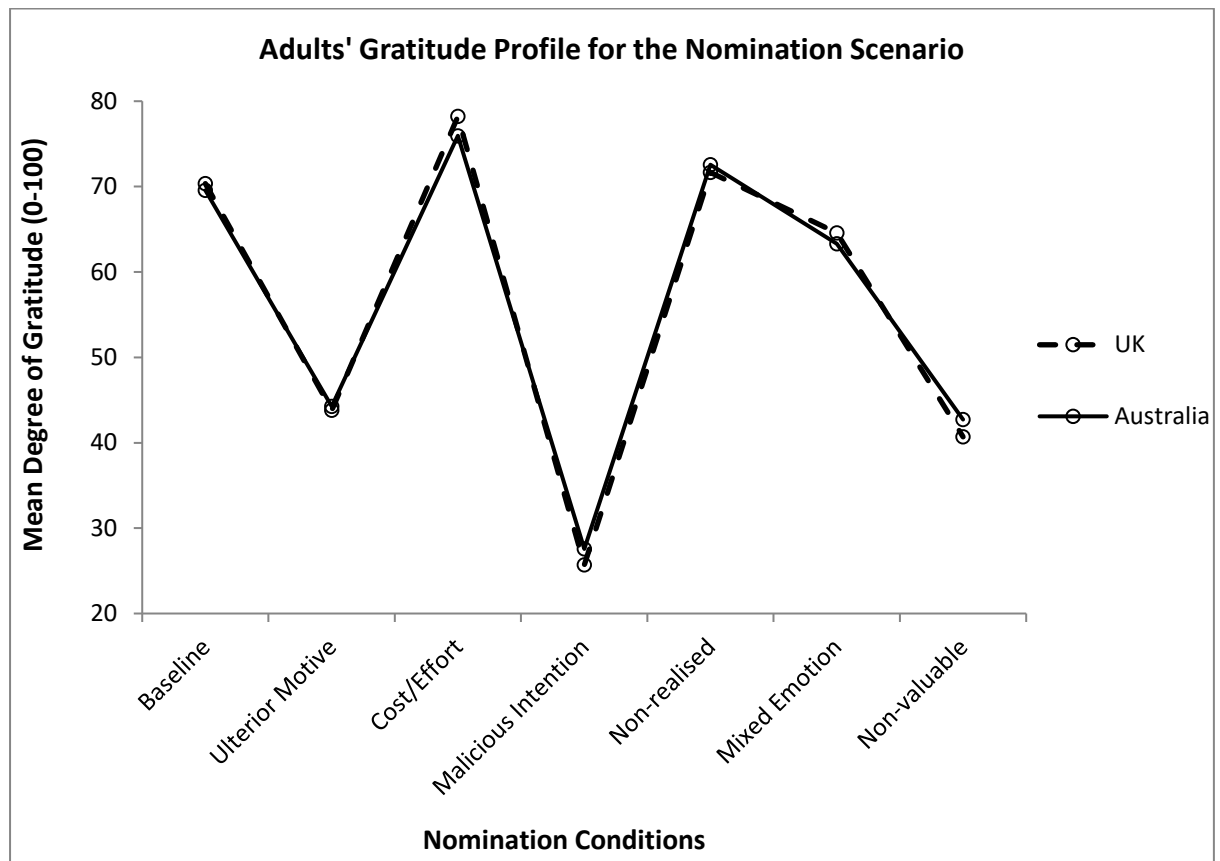


Figure 4: Profile of mean gratitude scores across the seven conditions of the (moderate gratitude) nomination scenario, as shown for both UK and Australian adolescents

